



quick facts on...

Golden Gate Canal Improvements

...Managing a Limited System in a High Growth Area

October 2006

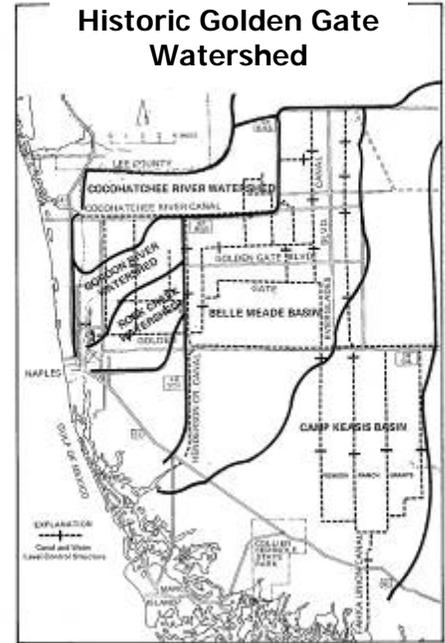
*The **South Florida Water Management District** is a regional, governmental agency that oversees the water resources in the southern half of the state. It is the oldest and largest of the state's five water management districts.*

Our mission is to manage and protect water resources of the region by balancing and improving water quality, flood control, natural systems and water supply.

BACKGROUND

Constructed by Gulf American Corporation in the 1960's, the Golden Gate Canal system consists of almost 70 miles of canals, 16 structures and provides drainage to a 120-mile² watershed. The canals were constructed to lower groundwater levels for homesite construction. The series of weirs were installed to prevent overdrainage of the surficial aquifer.

Since 1985, the Basin has been upgrading structures to enhance flood protection and groundwater recharge capabilities. Golden Gate Weir #1 was upgraded in 2003. Construction for the upgrade of Golden Gate Weir #2 is scheduled to begin in November 2006, and the relocation and upgrade of Golden Gate Weir #3 will begin in late summer 2007. Collectively, these upgrades will provide greater management flexibility for flood control, aquifer recharge and moderation of freshwater discharges to the downstream estuaries.



BASIN BOARD

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Vice Chair

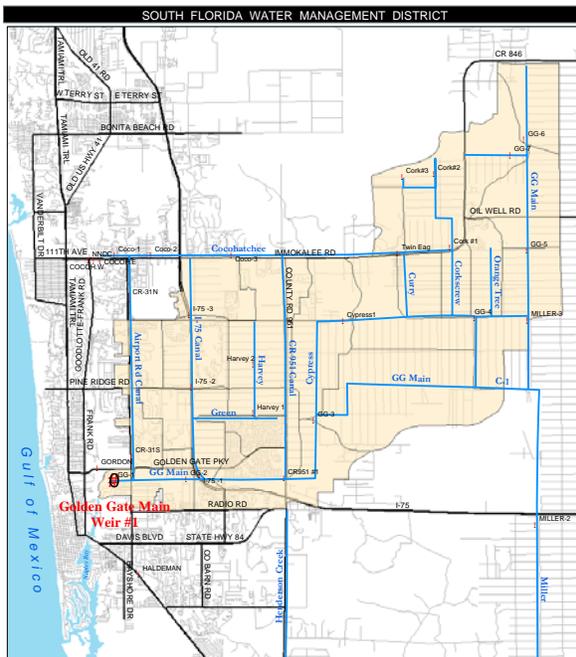
Liesa Priddy
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Director



Current Golden Gate Watershed

0 0.5 1 Miles

IMPACT OF GOLDEN GATE CANAL SYSTEM

The network of roads and canals resulted in fragmentation of the historic watersheds, elimination of flowways and alteration of the volume, timing and distribution of freshwater flows to the receiving estuaries.

- The Cocohatchee River watershed was reduced in size leading to drainage of the southern portion of Corkscrew Swamp into the Golden Gate Canal.
- The Naples Bay-Gordon River watershed was increased ten-fold to receive drainage from the entire Golden Gate Canal system.
- Substantial portions of the Rock Creek watershed were incorporated into the Golden Gate Canal system.
- A portion of the North Belle Meade area, which historically drained south to the Henderson Creek Basin, now drains into the Golden Gate Canal system.

Big Cypress Basin

GOLDEN GATE WEIR #1

Old Structure:

- Moveable crest construction with two operation settings of fully up (3.35 ft NGVD) or fully down (2.9 ft NGVD)

Upgrade:

- 85.5 ft long automated, gated spillway (three 26.67 ft X 6 ft independently operated, hinged crest gates)
- Gate elevation at 5 ft NGVD
- Each gate can be operated between -1 – 5 ft NGVD

GOLDEN GATE WEIR #2

Existing:

- 105 ft fixed crest weir (two 6 ft X 5 ft bottom opening sluice gates)
- Crest fixed at 5 ft NGVD

Upgrade:

- 80 ft long automated spillway (three 26.7 ft X 6.3 ft Obermeyer Gates)
- Each gate can be operated between 0 – 6.3 ft NGVD
- Increase conveyance area by 340 ft² (500cfs – 700 cfs or 300 – 500 MGD)
- Raising upstream water level 1.3 ft during dry season will increase groundwater recharge in a 10 mile² area

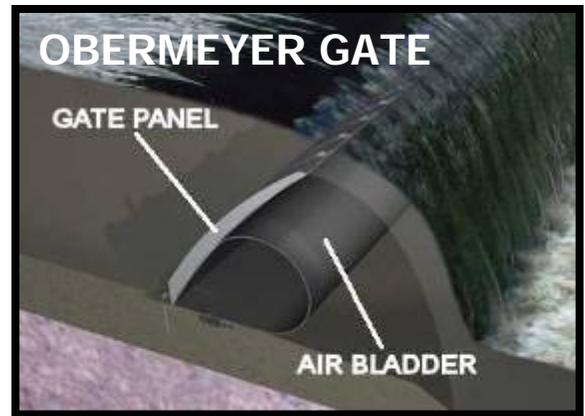
GOLDEN GATE WEIR #3

Existing:

- 100 ft fixed crest weir (two 6 ft X 5 ft bottom-opening sluice gates)
- Crest fixed at 7.5 ft NGVD

Proposed Relocation and Upgrade:

- 80 ft long automated spillway (three 26.7 ft X 6.3 ft Obermeyer Gates)
- Each gate can be operated between 2 – 9.5 ft NGVD
- Build head to restore historical flows to Henderson Creek Canal in near future
- Raise upstream water level during dry season to increase aquifer recharge for County wellfields



Air bladder inflates and deflates to regulate water flow.

What this means for the system:

These system upgrades will enhance the management flexibility of the Golden Gate Canal System by:

- Reducing overdrainage of the system during the dry season
- Incrementally lowering and raising the gates to allow more natural flows to the downstream estuaries
- Maximizing retention for aquifer recharge to provide more dry season water supply
- Restoring some historical flows to Rookery Bay by conveying water under I-75 and into the Henderson Creek Canal
- Improved level of flood protection during major storm events

PROJECT COST:

| | | |
|---------------------|---------------------|--------------------------------------|
| GOLDEN GATE WEIR #1 | \$2,240,000 | Completed 2003 |
| GOLDEN GATE WEIR #2 | \$4,270,000 | Construction Winter 2006 |
| GOLDEN GATE WEIR #3 | \$5,000,000 | Construction Anticipated Winter 2007 |
| TOTAL | \$11,510,000 | |

